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ABSTRACT

This learning module has two main goals: (1) to increase students' knowledge and understanding of the often complex relationship between sustainable development and the social, economic, and environmental conditions in a country; and (2) to strengthen students' ability to perform statistical calculations, make and interpret maps, charts, and tables, as well as analyze and synthesize information to make inferences and generalizations and to think critically when analyzing information, making decisions, and solving problems. This learning module focuses specifically on sustainable development and economic conditions. Teaching units in the module contain a full range of questions, activities, and exercises. The module is divided into the following sections: (1) "Introduction" (Point of View; Goals and Objectives, and Teaching the Learning Modules)"; (2) "Economic"; (3) "GNP per Capita Text"; (4) "GNP per Capita Map, 1995"; (5) "Chart 1 - GNP, Population and GNP per Capita 1995"; (6) "Chart 2 - Growth of GNP, Population, and GNP per Capita, 1980-1995"; (7) "Chart 3 - Income Distribution in Three Countries for Percentage of Households"; (8) "Economic Data Tables"; (9) "GNP Photo Gallery"; (10) "Case Study 1: Microenterprise Making It Possible India"; (11) "GNP per Capita Research & Explore"; and (12) "Glossary." (BT)

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ED 434 061

Development Education Program

"Bringing sustainable development into the classroom"

SO 031 035

Economic - GNP per Capita Learning Module

World Bank

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For Teachers

Point of View

The point of view of these learning modules is:

- Economic development is a means to a better life for people everywhere, especially those living in low- and middle-income countries.
- All countries, rich and poor, face environmental problems that are often closely linked with efforts to reduce poverty and improve people's standard of living.
- The relationship between economic development and the environment is complex, and reliable data are often scarce.
- Rising economic activity can both cause environmental problems and, with the right policies and institutions, help solve them.
- Greater economic strength and higher standards of living in all countries contribute to a healthy, vigorous world economy.
- The increased interdependence among countries that accompanies economic development can benefit all countries.
- This interdependence means that meeting the needs of people today without jeopardizing our ability to meet the needs of future generations is an issue that affects all people in all countries.

Goals and Objectives

The learning modules have two main goals:

- to increase students' knowledge and understanding of the often complex relationship between sustainable development and the social, economic, and environmental conditions in a country;
- to strengthen students' ability to perform statistical calculations, to make and interpret maps, charts, and tables,; to analyze and synthesize information to make inferences and generalizations; and to think critically when analyzing information, making decisions, and solving problems.

As a result of using these learning modules, students should be able to:

- recognize basic areas of social, economic, and environmental concern that affect people in all countries;

- compare and contrast social, economic, and environmental conditions in developing and industrial countries;
- demonstrate an understanding of the relationships between population growth rate, GNP per capita, and access to clean water;
- make inferences from statistics about living conditions, levels of economic development, and issues of sustainable development;
- express opinions about sustainable development and use statistics to support them.

Teaching the Learning Modules

This Teaching Guide has teaching units to accompany each learning module. These teaching units contain a full range of questions, activities, and exercises. You can get answers by clicking on the Answers icon.

Begin teaching each indicator by discussing the definition of the indicator, then continue with the map, text, charts and graphs, data table, case studies, and photos.

Activities included here are not organized by increasing complexity.

The blank comparative data table is designed so that, in most cases, space is available for students to add more data if you wish to have them do so.

Economic

This is a brief introduction to economic issues of sustainable development. When you have finished reading, you can start exploring the GNP per Capita learning module.

Economic Sector

The goal of sustainable development is to improve living standards and the quality of people's lives, both now and for future generations. Economic issues are an important piece of the development "puzzle."

Everyone plays a role in the economy

Economics is a system of deciding how to allocate limited resources that will be used to meet human needs and wants. Whenever we buy, sell, or barter something, we are taking part in the exchange of goods and services that makes up the economy. Examples of such goods and services can vary widely—from food, school buses, books, minerals, and military weapons, to bank loans, factories, electricity, hospitals, hair cuts, clothes, and television programs.

When a country's economy is healthy, most people can make, buy, or trade for most of the goods and services they need and want. In some countries these goods and services may be available only to relatively few people. In all countries some people may have more than enough, while others may barely survive.

Local issues/global issues

To help their economies continue to grow over time, countries strive to develop economic, social, and environmental goals, policies, and strategies for the short and long term. And since economies around the world are increasingly and inextricably linked through trade, the decisions that one country -- rich or poor -- makes about its economy can affect many other countries. Developing countries may depend on industrial countries to provide goods and services that they lack the technology or resources to produce. But industrial nations also depend on developing countries , who purchase one-quarter of the goods and services they export.

Linking the economy with environmental and social sectors

Economic issues are closely linked to environmental concerns. The economy depends on the sustainable use of renewable resources. Overuse of these resources for short-term gain may undercut a country's long-term economic future.

Economic issues are also linked with social concerns. For example, inadequate investment in education and training of workers limits the potential for economic growth. And rapid population growth may limit the economic system's ability to meet people's basic needs and provide jobs

for everyone who wants to work.

It is only when information about the economy is combined with social and environmental data that the full impact of development decisions on the quality of life can be understood.

Economic indicators

One way to measure a country's level of development is to look at economic data such as the dollar amount of the country's gross national product (GNP) per capita. GNP per capita helps measure the material output of a country, but it does not show what is produced, whether all people share equally in the wealth of the country, or whether they lead fulfilling lives.

As you explore the GNP per Capita learning module, what other types of economic data and information would help you better understand how people live in a particular country? What kinds of social and environmental data would give you a fuller picture of what life is like in that country?

GNP Per Capita

Did You Know?

- *Of the world's almost 6 billion people, more than 1.3 billion live on less than $1 a day. Two billion more people are only marginally better off.*
- *About 60 percent of the people living on less than $1 a day live in South Asia and Sub-Saharan Africa.*
- *In high-income countries, farmers—men and women—make up less than 6 percent of the workforce, while in low- and middle-income countries combined, they represent nearly 60 percent of all workers.*
- *Developing countries account for almost $1 out of every $4 that industrial countries earn from their exports.*

- GNP per capita is much lower in low- and middle-income countries than in high-income countries.
- Low- and middle-income countries produce about 20% of the world's goods and services, but have more than 80% of the world's population.
- Although the GNP of low- and middle-income countries grew between 1980 and 1995, this growth was often counteracted by rapid population growth.
- The GNP per capita growth rate has been negative in most low- and middle-income countries between 1980 and 1995, meaning that the average annual income decreased per person from one year to the next.
- Despite large differences in the GNP per capita of high-, middle-, and low-income countries, the trend across all countries is for the richest 20% of the population to earn incomes that are many times higher than the poorest 20%.
- By itself, GNP per capita cannot measure people's well-being or a country's success in development. It does not show what is being produced, whether all people share equally in the income of a country, or whether a country has depleted or degraded its natural resources to achieve economic growth.

GNP per Capita

Gross national product (GNP) per capita is the dollar value of a country's final output of goods and services in a year, divided by its population. It reflects the average income of a country's citizens. Countries with a GNP per capita in 1995 of $9,386 or more are described as high income, between $766 and $9,385 as middle income, and $765 or less as low income.

What GNP per capita shows

GNP per capita shows what part of a country's GNP each person would have if this GNP were divided equally. Knowing a country's GNP per capita is a good first step toward understanding the country's economic strengths and needs, as well as the general standard of living enjoyed by the average citizen. A country's GNP per capita tends to be closely linked with other indicators that measure the social, economic, and environmental well-being of the country and its people. For example, generally people living in countries with higher GNP per capita tend to have longer life expectancies, higher literacy rates, better access to safe water, and lower infant mortality rates.

Economic productivity and growth

Low- and middle-income countries produce about 20 percent of the world's goods and services, but have more than 80 percent of the world's population. As Chart 1 illustrates, this trend results in people in low- and middle income countries having a smaller share of the world's goods and services than people in high-income countries.

A general objective of nations is to increase the size of their economies and hence their GNP per capita. Economic growth depends on people—both men and women—having better health, education, and work skills. It also depends on improving transportation, communication, and energy systems; having better tools and technology; having access to raw materials and capital; getting fair wages and prices for goods and services; encouraging savings and investment; increasing the value and variety of exports; and having better access to world markets to sell these exports.

Effects of population growth rate on GNP per capita

Between 1980 and 1995, GNP grew moderately in many low-income countries, although in some cases—most notably China—growth was substantial. However, in many developing countries, economic growth is often counteracted by rapid population growth. As a result, GNP per capita has tended to grow at a slower rate in low- and middle-income countries than in high-income countries. In fact, Chart 2 shows that GNP per capita growth has been negative in most low- and middle-income countries in the period 1980–1995.

Many countries are trying to slow their population growth in order to raise standards of living. In general, countries that have managed to increase their GNP per capita have tended to contain population growth while following sensible economic policies that can encourage stability and increases in both human and physical capital.

What GNP per capita does not show

GNP per capita helps measure the material output of a country, but it does not show what kinds

of goods and services the country produces, whether all people share equally in the wealth of a country, or whether these people lead fulfilling lives.

Despite large differences in the GNP per capita of high-, middle-, and low-income countries, the trend across all countries is for the richest 20 percent of the population to earn incomes that are many times higher than the poorest 20 percent. To get a better picture of the standard of living in a country, you must go beyond GNP per capita to see how equitably income is distributed among all the people. Chart 3 depicts distribution patterns typical of low-, middle-, and high-income countries around the world.

GNP does not always capture activity in the informal economy, such as unreported cash payments for goods and services, bartering, or black market trading. The informal sector can generate a lot of income that never shows up in standard economic indicators. Many countries are encouraging programs that help people in the informal sector get loans and business training, with the goal that they eventually become part of the formal economy.(Case Study)

Some more issues...

Going beyond GNP per capita helps reveal other important development issues. For example, GNP per capita is given in dollars, but a dollar may buy more in one country than in another. To compare the actual purchasing power of per capita incomes across countries, you can look at purchasing power parity (PPP). Another issue is that GNP per capita does not recognize the costs of depleting natural resources and damaging the environment. The concept of natural resource accounting, although still being developed, strives to measure and allow for these costs.

Exploring the GNP per Capita Text

1. Read the definition of GNP per capita and answer the following questions:

   a. What does this indicator measure?

      [GNP per capita measures the average income of a country's citizens. It shows what part of a country's GNP each person would have if GNP were divided equally.]

   b. Why is knowing GNP per capita helpful in studying development?

      [It is a good first step toward understanding a country's economic strengths and needs, as well as the general standard of living enjoyed by the average citizen.]

2. Read the definitions of low-income, middle-income and high-income countries and answer the following questions:

   a. What was the highest GNP per capita a country could have in 1995 to be included among the low-income countries?

      [$765]

   b. What would you expect the general living conditions to be like in a low-income country?

      [There would probably be a lower standard of living than in middle- and high-income countries; there would be few goods and services available to the general public; and many people would not be able to meet their basic needs.]

   c. What was the range of GNP per capita for middle-income countries in 1995?

      [$766-$9,386]

   d. What would you expect the general living conditions to be like in a middle-income country?

      [The standard of living would probably be higher than in a low-income country, but lower than a high-income country. People would have access to more goods and services than in a low-income country, but many people still would not be able to meet their basic needs.]

   e. What was the range of GNP per capita for high-income countries in 1995?

      [$9,387 and above]

f. What would you expect the general living conditions to be like in a high-income country?

[The standard of living would probably be higher than in low- and middle-income countries, with more access to goods and services. Most people would probably be able to meet their basic needs, but would still have things that they want.]

3. The items listed below would be included in calculating a country's GNP. Which items are goods? Which are services?

food **[good]**
housing **[good]**
teachers' salaries **[service]**
home computers **[good]**
getting a haircut at the hairdressers **[service]**

4. Answer each of the following questions briefly, referring back to the text if necessary.

a. Name three factors that influence economic growth.

[Some factors that influence economic growth include the health, education, and skill levels of the labor force; transportation, communication, and energy systems; quality of tools and technology; access to raw materials and capital; fair wages and prices for goods and services; savings and investment; value and variety of exports; and access to world markets.]

b. How can population growth rate affect the GNP per capita growth rate?

[Assuming that GNP stays the same, the higher the population growth rate, the lower the GNP per capita growth rate. If the population growth rate is slower than the GNP growth rate, the GNP per capita growth rate is positive; if the population growth rate equals the GNP growth rate, the GNP per capita growth rate is zero; and if the population growth rate is faster than the GNP growth rate, the GNP per capita growth rate is negative.(For more in-depth information, read growth rates.)]

c. Does GNP per capita give a complete picture of the standard of living of all people in a country? Why or why not?

[No, because it is an average. GNP per capita does not show how income is distributed. And although it shows the average income, it does not show whether people lead fulfilling lives. In addition, it does not include unreported income from the informal sector, nor show what goods and services are available and how much people can buy with their money.]

5. Calculate GNP per capita for countries A and B using this formula: GNP ¸ Population = GNP per capita

	GNP	Population	GNP per capita
Country A	$16,512,000,000	103,200,000	[$160]
Country B	$1,560,060,000,000	121,500,000	[$12,840]

Based on your answers, identify each country as low income, middle income, or high income.

[Country A is low income; country B is high income.]

6. Use the population information in the table below to answer the question that follows.

	Percentage of total world population, 1995	GNP per capita,1995
Low-income economies	56%	$430
Middle-income economies	28%	$2,390
High-income economies	16%	$24,930

How many times greater is the average GNP per capita of high-income countries than that of low-income countries?

[$24,930 , $430 = 58 time s]

7. Read the definition of growth rates, then calculate the annual GNP per capita growth rates for countries A and B using the following formula:

Change in GNP per capita in a year	÷	GNP per capita at the start of the year	x 100 =	Annual GNP per capita growth rate (%)

	GNP per capita at the start of the year	GNP per capita at the end of the year	Changes in GNP per capita during the year	Annual GNP per capita growth rate
Country A	$113	$110	[-$3]	[-2.7%]
Country B	$1,590	$1,700	[$110]	[6.9%]

Note: Average annual growth rates of GNP per capita for a period of years provide a better

picture than rates for a single year. Calculating any growth rate for a period longer than a year requires more complicated mathematical formulas than the one used to calculate an annual rate.

8. Purchasing power parity (PPP) is used to compare how much a dollar can buy in differentcountries. If GNP per capita goes up after being adjusted for PPP, one can buy more goods and services than the GNP per capita figure would suggest. If it goes down after adjustment, one can buy less than the figure would suggest. Look at the following table and answer the questions below.

	GNP per capita 1995	GNP per capita (PPP)1995
Country A	$17,390	$23,790
Country B	$31,250	$27,940

a. In which country would you be able to purchase more with a dollar?

[Country A]

b. In which country is the average person likely to have the better standard of living?

[Country B]

c. Based on these data, in which country would you prefer to live? Explain your answer.

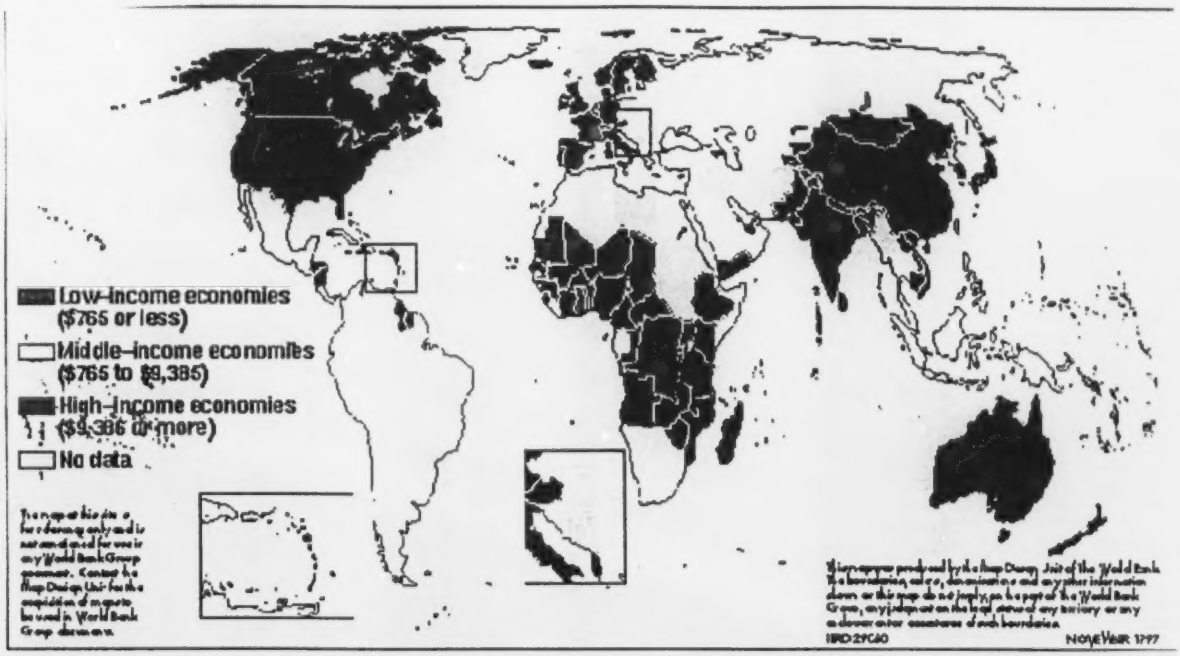
[Probably in country B, because even though you can buy less with each dollar, the value of your per capita income is still greater than in country A.]

9. Natural resource accounting tries to measure and allow for the costs of depleting natural resources and degrading the environment that can be part of economic growth. Listed below are some products that would add value to a country's GNP. For each product, list some potential environmental and resource costs that might not be recognized in GNP, but which would be included in natural resource accounting.

Product	**Potential environmental and resource costs**
Wood furniture	**[Possible answer: Cutting down trees for wood could result in lack of trees for future use; decrease in the Earth's ability to purify air; soil erosion which could make land less fertile and increase dangers of flooding; silting; loss of habitat for wildlife; and decrease in biodiversity.]**

Food crops	**[Possible answer: Growing food crops such as maize could result in soil erosion which can make land less fertile and increase dangers of flooding; silting; water pollution from pesticides and fertilizers; and loss of soil nutrients. Farmers' use of irrigation could deplete fresh water resources or cause salinization of the soil which happens when fields are over-irrigated.]**
Electricity from a coal burning plant	**[Possible answer: Mining the coal could result in a lack of coal for future energy use and land degradation of the mining area, which could result in a loss of habitat for wildlife. Burning coal for electricity could result in air pollution; acid rain; pollution of rivers and lakes; destruction of fisheries; decrease in biodiversity; and decreased crop yields.]**

GNP per Capita, 1995



Gross national product (GNP) per capita is the dollar value of a country's final output of goods and services in a year, divided by its population. It reflects the average income of a country's citizens. Countries with low GNP per capita tend to be located in Sub-Saharan Africa and parts of Asia. Countries with high GNP per capita tend to be located in Europe, North America and parts of Asia.

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Exploring the Map

1. According to the map key, which color represents low-income economies? **[orange]**

   Which color represents middle-income economies? **[yellow]**

   Which color represents high-income economies? **[green]**

2. Find Argentina, Germany, India, South Africa, and United Arab Emirates on the map. What income group does each country belong to?

   [Argentina and South Africa are middle income; Egypt and India are low income; Germany is high income]

   Compare the color of each country with those of its neighbors. To what extent is each country typical of conditions in its area and region?

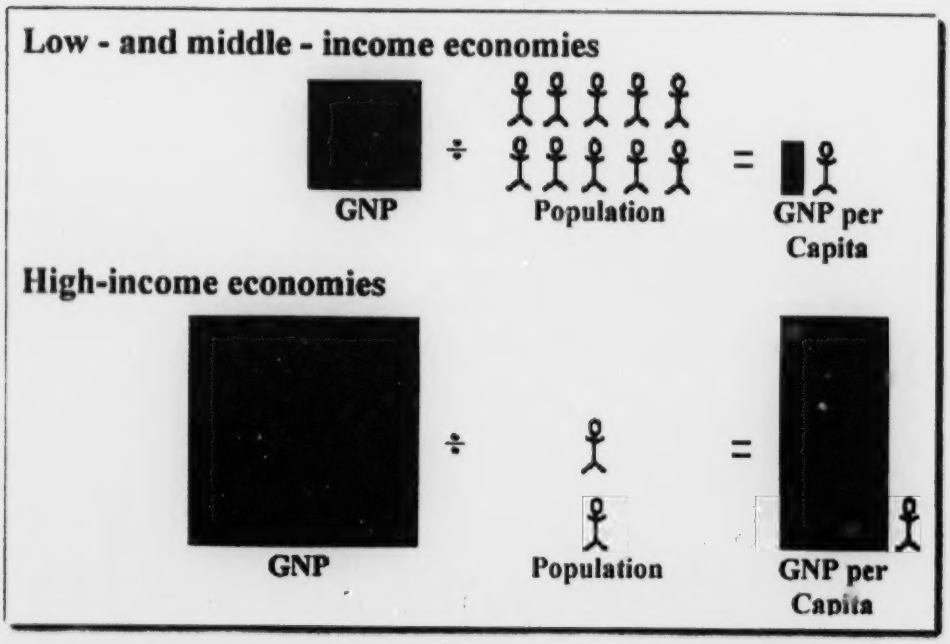
   [Argentina and India are typical of their regions; Germany and Egypt are somewhat typical of their regions; South Africa is less typical of its region.]

3. Which income group is most represented in Sub-Saharan Africa? **[low income]**

   South America? **[middle income]**

   North America? **[high income]**

Chart 1. GNP, Population, and GNP per Capita, 1995



GNP per capita is a country's gross national product divided by its population. Low- and middle-income countries produce about 20 percent of the world's goods and services, but have more than 80 percent of the world's population. As a result, people in these countries earn a smaller share of the world's income than people in high-income countries.

Exploring Chart 1

1. Study Chart 1 which shows GNP, population, and GNP per capita for low- and middle-income and high-income countries. What does it show you about the differences in the production of goods and services between high-income countries and low- and middle-income countries?

2. Compare GNP per capita in low- and middle-income and high-income countries.

a. Refer to the Data Table and choose four countries—your own, one low-income, one middle-income, and one high-income.
b. Refer to column 5 in the Data Table and find the GNP per capita in 1995 for each country you selected.
c. How many times larger is GNP per capita in the high-income country than in the low-income and middle-income countries? (Divide GNP per capita in the high-income country by GNP per capita in each of the developing countries.)
d. How many times larger or smaller is the GNP per capita in your country than that in the middle-income country?

3. If a country slows down its population growth rate, is its GNP per capita likely to increase or decrease?

4. Based on the text and your own knowledge, list three possible social and three possible economic reasons for the difference in productivity between high-income and low- and middle-income countries.

Exploring Chart 1. Population, GNP, and GNP per Capita, 1995

1. Study Chart 1 which shows GNP, population, and GNP per capita for low- and middle-income and high-income countries. What does it show you about the differences in the production of goods and services between high-income countries and low- and middle-income countries?

   [Production of goods and services in low- and middle-income countries is much less than in high-income countries, and population is much larger; therefore, on average, each person gets a much smaller share of total production.]

2. Compare GNP per capita in low- and middle-income and high-income countries.

   a. Refer to the Data Table and choose four countries—your own, one low-income, one middle-income, and one high-income. **[Answers will vary.]**

   b. Refer to column 5 in the Data Table and find the GNP per capita in 1995 for each country you selected. **[Answers will vary.]**

   c. How many times larger is GNP per capita in the high-income country than in the low-income and middle-income countries? (Divide GNP per capita in the high-income country by GNP per capita in each of the developing countries.) **[Answers will vary.]**

   d. How many times larger or smaller is the GNP per capita in your country than that in the middle-income country? **[Answers will vary.]**

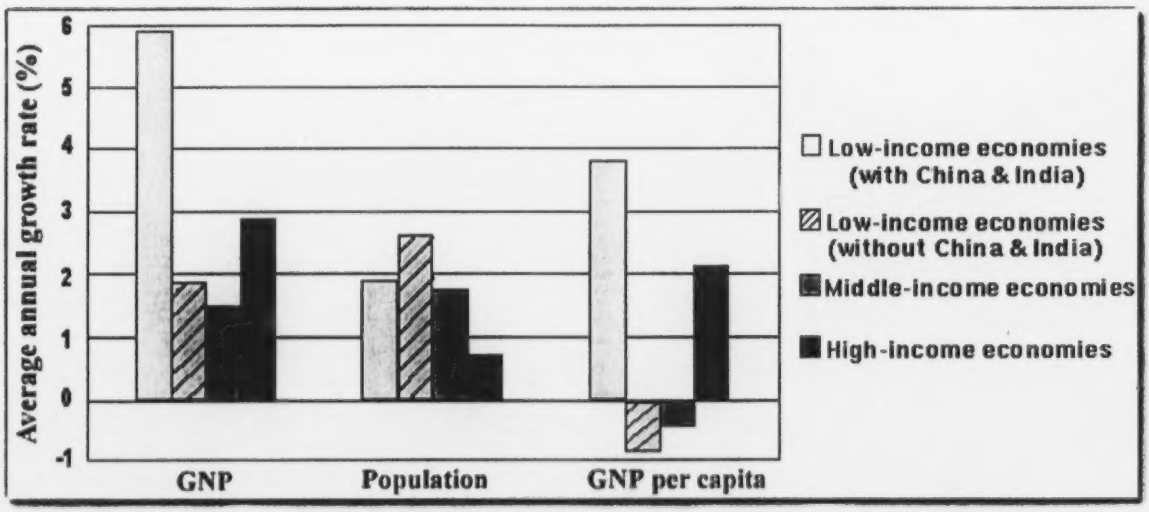
3. If a country slows down its population growth rate, is its GNP per capita likely to increase or decrease?

   [Increase, because there are fewer people to share the wealth than there would have been at the original rate of population growth.]

4. Based on the text and your own knowledge, list three possible social and three possible economic reasons for the difference in productivity between high-income and low- and middle-income countries.

   [Social: population growth rate, health of population, education and work skills of population. Economic: value and variety of exports, access to world markets, wages and prices for goods and services, savings and investment rate, access to raw materials and capital, access to machines and technology, government policies]

Chart 2. Growth of GNP, Population, and GNP per Capita, 1980–1995
(with and without China & India)



In many developing countries, moderate GNP growth is counteracted by rapid population growth. As a result, between 1980 and 1995, the average annual GNP per capita growth rate for middle- and low-income countries (excluding China and India) was negative.

Exploring Chart 2 Test Yours

1. Read the definition of growth rates then use the data from Chart 2, complete the following table:

	GNP Growth rate	Population Growth Rate	GNP per capita Growth Rate
Low-income economies (with China and India)			
Low-income economies (without China and India)			
Middle-income economies			
High-income economies			

2. When calculating data trends by country income groups, the low-income country group data are frequently calculated both with and without China and India. This is because China and India are so large that trends in their individual populations, economies, and environments can overshadow trends throughout the remaining countries in the group.

a. Looking at Chart 2, how do the low-income country growth rates with and without China and India compare?
b. What do these comparisons tell you about growth rates of GNP, population, and GNP per capita in China and India?

3. Study the growth rate data from the table you created for question 1. Imagine you are the leader of a country and have pledged to improve the standard of living for your average citizens. Which income group's GNP growth rate would you try to match? Explain. Which income group's population growth rate would you try to imitate? Explain. Why would this be a good combination?

4. Looking back at the text and at the growth rate data from the table you created for question 1, argue for or against the following statement:

> Raising standards of living in low-income countries depends on one thing only: reducing population growth.

Exploring Chart 2. Growth of GNP, Population, and GNP per capita, 1980-1995 (with and without China & India)

1. Read the definition of growth rates then use the data from Chart 2 to complete the following table:

	GNP growth rate	Population growth rate	GNP per capita growth rate
Low-income economies (with China and India)	**[5.9%]**	**[1.9%]**	**[3.8%]**
Low-income economies (without China and India)	**[1.8 %]**	**[2.6%]**	**[-0.9%]**
Middle-income economies	**[1.4%]**	**[1.7%]**	**[-0.4%]**
High-income economies	**[2.8%]**	**[0.7%]**	**[2.1%]**

2. When calculating data trends by country income groups, the low-income country group data are frequently calculated both with and without China and India. This is because China and India are so large that trends in their individual populations, economies, and environments can overshadow trends throughout the remaining countries in the group.

   a. Looking at Chart 2, how do the low-income country growth rates with and without China and India compare?

      [The GNP growth rate with China and India is much higher than without; the population growth rate is lower with China and India than without; and the GNP per capita growth rate is much higher with China and India than without. In fact, when China and India are included among the low-income countries, the GNP per capita growth rate is the highest of all the income groups, and when China and India are not included, it drops to the lowest.]

   b. What do these comparisons tell you about growth rates of GNP, population, and GNP per capita in China and India? [China and India's combined GNP growth rate is higher than most other low-income countries; their combined population growth rate is lower; and their combined GNP per capita growth rate is higher.]

3. Study the growth rate data from the table you created for question 1. Imagine you are the leader of a country and have pledged to improve the standard of living for your average citizens. Which income group's GNP growth rate would you try to match? Explain.

   [The low-income countries with China and India because their GNP growth rate is

the highest of any group.]

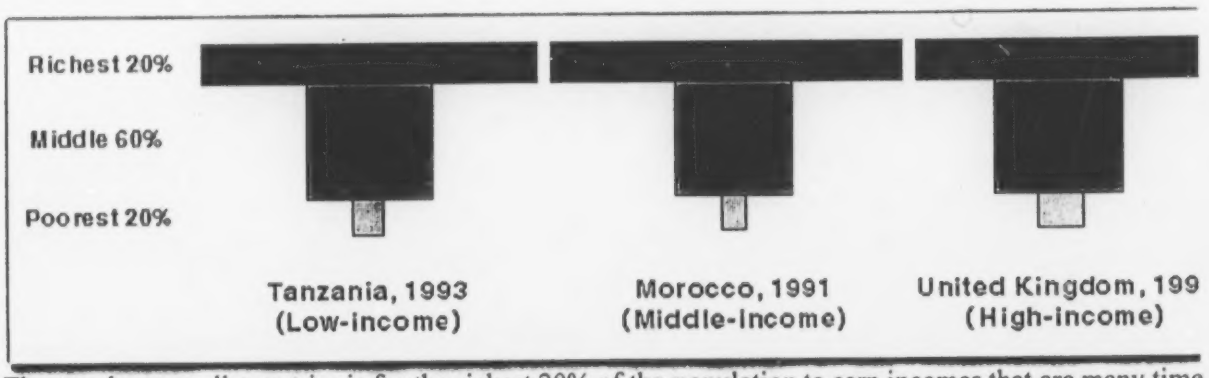
Which income group's population growth rate would you try to imitate? Explain. **[The high-income countries, because their population growth rate is the lowest of any group.]**

Why would this be a good combination? **[Because a high GNP growth rate coupled with a low population growth rate would result in a high GNP per capita growth rate. This would mean that the average person's standard of living would most likely improve.]**

4. Looking back at the text and at the data in the table you created for question 1, argue for or against the following statement:

Raising standards of living in low-income countries depends on one thing only: reducing population growth.

Chart 3. Income Distribution in Three Countries for Percentage of Households



The trend across all countries is for the richest 20% of the population to earn incomes that are many time higher than the poorest 20%, despite large differences in the GNP per capita of high-, middle-, and low-income countries. To see the actual differences in average income for the richest, middle, and poores segments of these countries, look at Chart 3.1.

Exploring Chart 3

	Share of income		
	Richest 20%	Middle 60%	Poorest 20%
Tanzania	45.4%	47.7%	6.9%
Morocco	46.3%	47.1%	6.6%
United Kingdom	40.8%	51.6%	7.6%

1. Chart 3 shows the percentage of GNP earned by the richest 20%, middle 60% and poorest 20% of a low-income, middle-income, and high-income country (actual percentages are given in the table above).

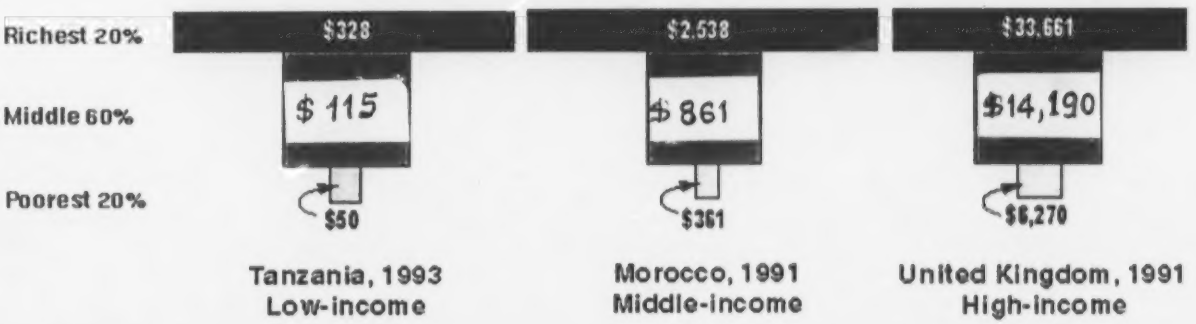
a. Compare the portion of GNP earned by the poorest 20% of each of the countries. How much difference is there between the countries?
b. In which country does the "middle class" get the largest percentage of income? How does this compare with the other two countries?
c. In which country does the wealthiest class receive the largest percentage of income? How does this compare with the other two countries?
d. Make a statement that describes the patterns of income distribution in these three countries.

2. Since national income tends to be closely related to quality of life indicators, what patterns would you expect to see in life expectancies, literacy rates, and access to safe water and sanitation among rich and poor people within nations?

3. Look at Chart 3.1 to see the actual average per capita incomes for the richest, middle, and poorest groups of people in these three countries.

a. How does the average per capita income of the richest 20% of Tanzania compare with that of the poorest 20% of Morocco?
b. How does the average per capita income of the richest 20% of Morocco compare with that of the poorest 20% of the United Kingdom?
c. Based solely on average per capita income, it would appear that everyone, even the poor in the United Kingdom would have a better standard of living than people in Morocco or Tanzania. What factors would change that?

Chart 3.1. Income Distribution in Three Countries for Percentage of Households (with average inco in dollars)



Each of these countries shows a similar trend in how wealth is distributed, but there are large differences among low-, middle-, and high-income countries in the amount of money people earn. The rich of Tanza would be the poor of Morocco; the poor of the United Kingdom would be the rich of Morocco.

Exploring Chart 3. Income Distribution in Three Countries for Percentage of Households

	Share of income		
	Richest 20%	Middle 60%	Poorest 20%
Tanzania	45.4%	47.7%	6.9%
Morocco	46.3%	47.1%	6.6%
United Kingdom	40.8%	51.6%	7.6%

1. Chart 3 shows the percentage of GNP earned by the richest 20 percent, middle 60 percent, and poorest 20 percent of a low-income, middle-income, and high-income country (actual percentages are given in the table above).

   a. Compare the portion of GNP earned by the poorest 20 percent of each of the countries. How much difference is there between the countries?

      [Not much. Across all three countries, the poorest 20% earns only about 7% of the GNP.]

   b. In which country does the "middle class" get the largest percentage of income? **[United Kingdom]**

      How does this compare with the other two countries? **[It is very similar.]**

   c. Make a statement that describes the patterns of income distribution in these three countries. **[Possible answer: Regardless of whether a country is rich or poor, income distribution is unequal, with the richest people getting much more than the poorest people.]**

2. Since national income tends to be closely related to quality of life indicators, what patterns would you expect to see in life expectancies, literacy rates, and access to safe water and sanitation among rich and poor people within nations?

   [The rich probably would have higher rates of life expectancy, literacy, and access to safe water and sanitation than the poor of the same country, unless the government and others instituted policies or programs to improve health, education, and water and sanitation services to those who can least afford them.]

3. Look at Chart 3.1 to see the actual average per capita incomes for the richest, middle, and poorest groups of people in these three countries.

a. How does the average per capita income of the richest 20 percent of Tanzania compare with that of the poorest 20 percent of Morocco? **[The poorest 20% of people in Morocco earn more on average than the richest 20% of Tanzania.]**

b. How does the average per capita income of the richest 20 percent of Morocco compare with that of the poorest 20 percent of the United Kingdom? **[The poorest 20% of the people in the United Kingdom earn more on average than the richest 20% of Morocco.]**

c. Based solely on average per capita income, it would appear that everyone, even the poor in the United Kingdom would have a better standard of living than people in Morocco or Tanzania. What factors would change that?**[If the cost of living were much higher in the United Kingdom than in the other countries, they might not be able to buy as much with their income as people in other countries. Also, if in a wealthier country everyone appears to have more things, the poorest segment of the population in these countries may feel more deprived than the poorest in less wealthy nations. Similarly, people who are in the richest 20% of the population in Tanzania and Morocco may feel wealthier than the poorest 20% in the United Kingdom because they are able to afford more goods and services than others in their countries.]**

ECONOMIC DATA TABLES

Asia (South and East) and the Pacific

Europe and Central Asia

Middle East and North Africa

North and Central America and the Caribbean

South America

Sub-Saharan Africa

Asia (South and East) and the Pacific

Explore the Data Table			1	2	3	4	5	6	7	8
			Total Population		Population Growth		GNP per capita		Access to Safe Water	Access to Sanitation
			millions		average annual growth rate (%)		[redacted]	[redacted]	% of population	% of population
			1995	2010	1980-95	1995-2010	[redacted]	[redacted]	1989-95	1989-95
L	1	Afghanistan	..	..	..	..	l	..	..	..
H	2	Australia	18	20	1.4	0.8	18,720	18,940	95	90
L	3	Bangladesh	120	150	2.2	1.5	240	1,380	83	30
L	4	Cambodia	10	14	2.9	2.0	270	..	13	..
L	5	China	1,200	1,347	1.3	0.8	620	2,920	46	..
H	6	Hong Kong, China	6	6	1.4	0.2	22,990	22,950a	..	..
L	7	India	929	1,127	2.0	1.3	340	1,400	63	29
M	8	Indonesia	193	235	1.8	1.3	980	3,800	63	55
H	9	Japan	125	128	0.5	0.1	39,640	22,110	95	85
M	10	Korea, Dem. Rep.	24	29	1.8	1.3	m	..	100	100
H	11	Korea, Rep.	45	50	1.1	0.8	9,700	11,450	89	100
L	12	Lao PDR	5	7	2.8	2.8	350	..	41	30
M	13	Malaysia	20	26	2.5	1.8	3,890	9,020	90	94
L	14	Mongolia	2	3	2.6	1.8	310	1,950	54	..
L	15	Myanmar	45	57	1.9	1.6	l	..	39	42
L	16	Nepal	21	30	2.5	2.2	200	1,170	48	22
H	17	New Zealand	4	4	1.0	0.8	14,340	16,360	..	..
L	18	Pakistan	130	190	3.0	2.5	460	2,230	60	30
M	19	Papua New Guinea	4	6	2.2	2.0	1,160	2,420	31	26
M	20	Philippines	69	90	2.3	1.8	1,050	2,850	84	75
H	21	Singapore	3	3	1.8	1.0	26,730	22,770	100	100
L	22	Sri Lanka	18	21	1.4	1.1	700	3,250	57	66
M	23	Thailand	58	65	1.5	0.7	2,740	7,540	81	87
L	24	Vietnam	73	93	2.1	1.6	240	..	38	21

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H. High-income economy.
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l. Estimated to be a low-income country.
m. Estimated to be a middle-income country.
a. References to GNP relate to GDP.

BEST COPY AVAILABLE

North and Central America and the Caribbean

Explore the Data Table			1	2	3	4	5	6	7	8
			Total Population		Population Growth		GNP per capita		Access to Safe Water	Access to Sanitation
			millions		average annual growth rate (%)		$	PPP*	% of population	% of population
			1995	2010	1980-95	1995-2010	1995	1995	1989-95	1989-95
H	86	Canada	30	32	1.2	0.6	19,380	21,130	100	85
M	87	Costa Rica	3	4	2.7	1.5	2,610	5,850	100	99
M	88	Cuba	11	12	0.8	0.6	m	..	94	66
M	89	Dominican Republic	8	9	2.1	1.3	1,460	3,870	79	85
M	90	El Salvador	6	8	1.4	2.0	1,610	2,610	62	73
M	91	Guatemala	11	15	2.9	2.5	1,340	3,340	64	71
L	92	Haiti	7	9	1.9	1.3	250	910	28	24
L	93	Honduras	6	9	3.2	2.5	600	1,900	70	68
M	94	Jamaica	3	3	1.1	1.0	1,510	3,540	70	74
M	95	Mexico	92	114	2.1	1.5	3,320	6,400	87	70
L	96	Nicaragua	4	6	3.0	2.4	380	2,000	57	..
M	97	Panama	3	3	2.0	1.3	2,750	5,980	82	87
M	98	Puerto Rico	4	4	1.0	0.8	m	..	..	..
M	99	Trinidad and Tobago	1	1	1.2	1.0	3,770	8,610	82	56
H	100	United States	263	297	1.0	0.8	26,980	26,980	90	85

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m. Estimated to be a middle-income country.
a. References to GNP relate to GDP.

BEST COPY AVAILABLE

Europe and Central Asia

Explore the Data Table			1	2	3	4	5	6	7	8
			Total Population		Population Growth		[illegible]		Access to Safe Water	Access to Sanitation
			millions		average annual growth rate (%)		[illegible]		% of population	% of population
			1995	2010	1980-95	1995-2010	[illegible]		1989-95	1989-95
L	25	Albania	3	4	1.3	1.0	670		..	100
L	26	Armenia	4	4	1.3	0.8	730	2,260	..	..
H	27	Austria	8	8	0.4	0.1	26,890	21,250	..	100
L	28	Azerbaijan	8	9	1.3	1.0	480	1,460	..	..
M	29	Belarus	10	10	0.5	0.1	2,070	4,220	..	100
H	30	Belgium	10	10	0.2	0.1	24,710	21,660	..	100
L	31	Bosnia and Herzegovina	..	..	..	..	[illegible]	[illegible]	..	..
M	32	Bulgaria	8	8	-0.3	-0.3	1,330	4,480	..	99
M	33	Croatia	5	5	0.3	0.0	3,250	[illegible]	96	68
M	34	Czech Republic	10	10	0.1	3,870	9,770	..	..	
H	35	Denmark	5	5	0.1	0.1	29,890	21,230	100	100
M	36	Estonia	1	1	0.0	-0.5	2,860	4,220	..	..
H	37	Finland	5	5	0.4	0.2	20,580	17,760	100	100
H	38	France	58	60	0.5	0.3	24,990	21,030	100	96
L	39	Georgia	5	6	0.4	0.1	440	1,470	..	..
H	40	Germany	82	82	0.3	0.0	27,510	20,070	..	100
M	41	Greece	10	11	0.5	0.2	8,210	11,710	..	96
M	42	Hungary	10	10	-0.3	-0.2	4,120	6,410	..	94
H	43	Ireland	4	4	0.4	0.7	14,710	15,680	..	100
H	44	Italy	57	56	0.1	-0.1	19,020	19,870	..	100
M	45	Kazakhstan	17	18	0.7	0.7	1,330	3,010	..	..
L	46	Kyrgyz Republic	5	5	1.5	1.1	700	1,800	75	53
M	47	Latvia	3	2	-0.1	-0.7	2,270	3,370	..	..
M	48	Lithuania	4	4	0.6	-0.1	1,900	4,120	..	..
M	49	Macedonia, FYR	2	2	0.8	0.8	860	[illegible]	..	..
M	50	Moldova	4	5	0.5	0.3	920	[illegible]	..	50
H	51	Netherlands	15	16	0.6	0.3	24,000	19,950	100	100
H	52	Norway	4	5	0.4	0.3	31,250	21,940	100	100
M	53	Poland	39	40	0.5	0.3	2,790	5,400	..	100
H	54	Portugal	10	10	0.1	0.1	9,740	12,670	..	100
M	55	Romania	23	22	0.1	-0.1	1,480	4,360	..	49
M	56	Russian Federation	148	145	0.4	-0.1	2,240	4,480	..	..
M	57	Slovak Republic	5	6	0.5	0.2	2,950	3,610	..	51
M	58	Slovenia	2	2	0.3	0.0	8,200	[illegible]	..	90
H	59	Spain	39	39	0.3	0.0	13,580	14,520	99	97
H	60	Sweden	9	9	0.4	0.2	23,750	18,540	..	100
H	61	Switzerland	7	7	0.7	0.2	40,630	25,860	100	100
L	62	Tajikistan	6	8	2.6	1.9	340	920	..	62
M	63	Turkey	61	75	2.1	1.4	2,780	6,580	92	94
M	64	Turkmenistan	5	6	3.0	2.3	920	[illegible]	85	60
M	65	Ukraine	52	50	0.2	-0.2	1,630	2,400	97	49
H	66	United Kingdom	59	60	0.3	0.2	18,700	19,260	100	96
M	67	Uzbekistan	23	31	2.4	2.0	970	2,370	..	18
M	68	Yugoslavia, FR (Serb./Mont.)	11	11	0.7	0.2	[illegible]	[illegible]	..	100

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a. References to GNP relate to GDP.

BEST COPY AVAILABLE

South America

Explore the Data Table			1	2	3	4	5	6	7	8
			Total Population		Population Growth		GNP per capita		Access to Safe Water	Access to Sanitation
			millions		average annual growth rate (%)		$	PPP*	% of population	% of population
			1995	2010	1980-95	1995-2010	1995	1995	1989-95	1989-95
M	101	Argentina	35	40	1.4	1.0	8,030	8,310	64	89
M	102	Bolivia	7	10	2.2	2.1	800	2,540	60	44
M	103	Brazil	159	190	1.8	1.2	3,640	5,400	92	73
M	104	Chile	14	17	1.6	1.1	4,160	9,520	96	71
M	105	Colombia	37	45	1.8	1.3	1,910	6,130	96	70
M	106	Ecuador	11	15	2.4	1.7	1,390	4,220	70	64
M	107	Paraguay	5	7	2.9	2.1	1,690	3,650	8	30
M	108	Peru	24	30	2.1	1.6	2,310	3,770	60	47
M	109	Uruguay	3	3	0.6	0.6	5,170	6,630	83	82
M	110	Venezuela	22	28	2.5	1.7	3,020	7,900	88	55

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BEST COPY AVAILABLE

Middle East and North Africa

Explore the Data Table			1	2	3	4	5	6	7	8
			Total Population		Population Growth		GNP per capita		Access to Safe Water	Access to Sanitation
			millions		average annual growth rate (%)		$	PPP*	% of population	% of population
			1995	2010	1980-95	1995-2010	1995	1995	1989-95	1989-95
M	69	Algeria	28	36	2.7	1.7	1,600	5,300	..	..
M	70	Egypt, Arab Rep.	58	73	2.3	1.6	790	3,820	84	..
M	71	Iran, Islamic Rep.	64	91	3.3	2.4	m	5,470	89	82
M	72	Iraq	20	31	2.9	3.0	m	..	45	36
H	73	Israel	6	7	2.4	1.4	15,920	16,490	99	70
M	74	Jordan	4	6	4.4	2.4	1,510	4,060	89	30
H	75	Kuwait	2	2	1.3	2.6	17,390	23,790	..	..
M	76	Lebanon	4	5	2.3	1.3	2,660	..	..	..
M	77	Libya	5	9	3.8	3.2	m	..	30	18
M	78	Morocco	27	34	2.1	1.6	1,110	3,340	59	63
M	79	Oman	2	4	4.6	3.8	4,820	8,140	56	72
M	80	Saudi Arabia	19	31	4.7	3.3	7,040	..	93	86
M	81	Syrian Arab Republic	14	21	3.2	2.7	1,120	5,320	87	78
M	82	Tunisia	9	11	2.3	1.5	1,820	5,000	86	72
H	83	United Arab Emirates	2	3	5.7	2.2	17,400	16,470	98	95
M	84	West Bank and Gaza	2	4	3.9	4.1	m	..	..	..
L	85	Yemen, Rep.	15	25	3.9	3.3	260	..	52	51

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Sub-Saharan Africa

Explore the Data Table			1	2	3	4	5	6	7	8
			Total Population		Population Growth		[illegible]		Access to Safe Water	Access to Sanitation
			millions		average annual growth rate (%)		[illegible]		% of population	% of population
			1995	2010	1980-95	1995-2010	[illegible]		1989-95	1989-95
L	111	Angola	11	16	2.9	2.8	410	1,310	32	16
L	112	Benin	5	8	3.1	2.6	370	1,760	70	22
M	113	Botswana	1	2	3.2	1.7	3,020	5,580	70	55
L	114	Burkina Faso	10	15	2.7	2.6	230	780	..	14
L	115	Burundi	6	9	2.8	2.5	160	630	58	48
L	116	Cameroon	13	20	2.8	2.9	650	2,110	41	40
L	117	Central African Republic	3	4	2.3	2.0	340	1,070	..	..
L	118	Chad	6	9	2.4	2.4	180	700	29	32
L	119	Congo, Dem. Rep	44	..	3.2		120	490	25	9
L	120	Congo, Rep	3	4	3.0	2.6	680	2,050	60	9
L	121	Côte d'Ivoire	14	19	3.6	2.2	660	1,580	82	54
L	122	Eritrea	..	..	..		[illegible]	[illegible]	..	..
L	123	Ethiopia	56	86	2.7	2.8	100	450	27	10
M	124	Gabon	1	2	3.0	2.3	3,490	[illegible]	67	76
L	125	Gambia, The	1	2	3.7	2.1	320	930	61	34
L	126	Ghana	17	25	3.1	2.4	390	1,990	56	42
L	127	Guinea	7	10	2.6	2.8	[illegible]	[illegible]	49	6
L	128	Guinea-Bissau	1	1	1.9	2.1	250	790	57	20
L	129	Kenya	27	37	3.2	2.2	280	1,380	49	43
M	130	Lesotho	2	3	2.5	2.1	770	1,780	57	35
L	131	Liberia	..	..	..		[illegible]	[illegible]	..	..
L	132	Madagascar	14	21	3.0	2.8	230	640	32	17
L	133	Malawi	10	14	3.1	2.4	170	750	54	63
L	134	Mali	10	15	2.6	3.0	250	550	44	44
L	135	Mauritania	2	3	2.6	2.3	460	1,540	72	64
M	136	Mauritius	1	1	1.0	1.0	3,380	13,210	100	100
L	137	Mozambique	16	23	1.9	2.4	80	810	28	23
M	138	Namibia	2	2	2.7	2.3	2,000	4,150	57	36
L	139	Niger	9	15	3.3	3.2	220	750	57	15
L	140	Nigeria	111	184	3.0	2.6	260	1,220	43	38
L	141	Rwanda	6	11	1.4	3.5	180	540	..	..
L	142	Senegal	8	12	2.8	2.5	600	1,780	..	..
L	143	Sierra Leone	4	6	1.7	2.7	180	580	..	..
L	144	Somalia	..	..	..		[illegible]	[illegible]	..	..
M	145	South Africa	41	55	2.3	1.9	3,160	6,030	..	46
L	146	Sudan	27	37	2.4	2.2	[illegible]	[illegible]	77	55
L	147	Tanzania /b	30	44	3.1	2.6	120	640	49	86
L	148	Togo	4	6	3.0	2.7	310	1,130	67	20
L	149	Uganda	19	28	2.7	2.6	240	1,470	42	60
L	150	Zambia	9	12	3.0	2.1	400	930	47	42
L	151	Zimbabwe	11	14	3.0	1.6	540	2,030	74	58

.. means that data are not availabe or that aggregates cannot be calculated because of missing data in the year shown.
* PPP is purchasing power parity. See glossary.
H. High-income economy.
L. Low-income economy.
M. Middle-income economy.
I. Estimated to be a low-income country.
m. Estimated to be a middle-income country.
a. References to GNP relate to GDP.

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Exploring the Data Table

1. Read the definition of purchasing power parity (PPP), then compare the GNP per capita and the PPP columns in the Data Table. In which countries is the GNP per capita higher than the GNP per capita adjusted for PPP? **[Hong Kong, Japan, Singapore, Austria, Belgium, Denmark, Finland, France, Germany, the Netherlands, Norway, Sweden, Switzerland, and United Arab Emirates.]**

   In which income group are these countries? **[High-income]**

   What does this tell you about the cost of goods and services in these countries? **[Goods and services tend to be more costly in these countries than in others. People here may have high per capita incomes, but they are not able to buy as much with each dollar.]**

2. Make a copy of the blank Comparative Data Table and label the first column Countries, the second column GNP per capita, 1995, the third Population growth rate, 1980-95, the fourth Access to safe water, 1989-95, and the fifth Access to sanitation, 1989-95. Then, using the text and the Data Table, fill in the chart according to the instructions below.

   a. Choose a low-income country in Sub-Saharan Africa and one in Asia (South and East) and the Pacific and write their names in the first column.

   b. Choose a middle-income country in Europe and Central Asia, one in Middle East and North Africa, and one in South America, and add them to the first column.

   c. Choose a high-income country in North and Central America and the Caribbean, one in Europe and Central Asia, and one in Asia (South and East) and the Pacific and add them to the first column.

   d. Label each country in your data table with an L, M, or H to show which income group it belongs to: low, middle, or high.

   e. Read the definitions of GNP per capita, population growth rate, access to safe water, and access to sanitation. Go to the Data Table, and for each of your countries, find the 1995 GNP per capita, 1980-95 population growth rate, 1989-95 percentage of population with access to safe water and 1989-95 percentage of population with access to sanitation, and write this information in the appropriate columns. If data for one of the indicators are not available, select another country from the same income group and region.

   f. Rank the countries, with "1" equaling the highest GNP per capita and "8" equaling the lowest. Write the appropriate ranking number in parentheses after the data in column 2.

g. Study your chart and answer the following questions:

In the countries with the lowest GNP per capita, are the other indicators high or low?

In the middle-income countries, are the other indicators higher or lower than in the low-income countries?

In the high-income countries, are the other indicators higher or lower than in the developing countries?

h. Based on your chart, is GNP per capita a good general indicator of the standard of living of a country? Why or why not?

3. Make a copy of the blank Comparative Data Table and label the first column Countries, the second column GNP per capita, 1995, and the third column GNP per capita, PPP, 1995.

Compare GNP per capita and GNP per capita adjusted for PPP in six countries from six different regions of the world by following these steps:

a. In the column at the left of the table, write the following countries and their regions. Brazil (South America); Ghana (Sub-Saharan Africa); Philippines (Asia, South and East, and the Pacific); Egypt (Middle East and North Africa); Canada (North and Central America and the Caribbean); Russian Federation (Europe and Central Asia).

b. Use the Data Table to find the GNP per capita for each country and fill in column 2 in your table.

c. Use the Data Table to find the GNP per capita adjusted for PPP for each country and fill in column 3 in your table. Are there any substantial changes in GNP per capita when it is adjusted for purchasing power parity? **[For each country, the numbers in the PPP column are larger than the numbers in the GNP per capita column, ranging from Canada with a 9 % difference to Ghana where the numbers more than quadruple. Except for Canada and Brazil, the GNP per capita adusted for PPP was more than double the GNP per capita. This means the average income in each of these countries can buy more goods and services than is readily apparent looking at the GNP per capita.]**

d. On a separate piece of paper, classify each country as low, middle, or high income according to its GNP per capita adjusted for PPP. Did any of the countries change from one classification to another? What does this tell you about GNP per capita data? **[Yes, Ghana moved from low- to middle-income.]**

What does this tell you about GNP per capita data? **[While GNP per capita data give an accurate indication of the dollar value of a nation's economy, they do not always accurately reflect how much each dollar is worth within that country. As a result, the categories of low-, middle-, and high-income, although accurate according to actual dollar amounts, may not reflect the true per capita purchasing power within countries.]**

4. Take the Comparative Data Table you prepared for question 2 above, and add a sixth column labeled GNP per capita, PPP, 1995.

   a. Use the Data Table to find the GNP per capita adjusted for PPP for each of your countries and fill in column 6 in your table. Are there any substantial changes in GNP per capita of each country when that GNP per capita is adjusted for purchasing power parity? **[Answers will vary.]**

   b. On a separate piece of paper, classify each country as low, middle, or high income according to its GNP per capita adjusted for PPP. Did any of the countries change from one classification to another? **[Answers will vary.]**

   c. Are differences between GNP per capita and GNP per capita adjusted for PPP reflected in any of the other indicators for the countries you chose? Explain. (For example, if one of your countries shifts from a middle-income to a high-income country when its GNP per capita is adjusted for PPP, does that country have a higher percentage of its population with access to safe water and sanitation than your other middle-income countries?) **[Answers will vary]**

Comparative Date Table

Indicator *Country*	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*

Comparative data table for the Development Education Program

GNP PHOTO GALLERY

Loadiing Bananas - Ecuador

Computer Work Thailand

Exploring Photo 1 Loading Bananas, Ecuador

1. Look at the photograph. Describe what you see.

   [Men are loading bananas onto a ship.]

2. Would this be a common scene in your country? Why or why not?

   [Answers will vary.]

3. In which country was this photograph taken? **[Ecuador]**

4. Find the country in the world and regional map gallery. What region is it in? **[South America]**

5. Find the country in the Data Table and determine if it is a low-, middle-, or high-income economy. **[It is a middle-income economy.]**

6. According to the Data Table, what is this country's projected population growth rate for 1995-2010? **[1.7%]** Its 1995 GNP per capita? **[$1,390]** Its 1989-1995 percentage of population with access to safe water? **[70%]**

7. What do you think life is like for the average person in this country? Support your answer. **[Answers will vary, but should take into account the possible effects of the population growth rate, the GNP per capita, and the percentage of the population with access to safe water on the quality of life.]**

8. What, if any, aspects of the activity shown in the photograph might help improve living standards in industrial countries? **[Possible answer: Industrial countries will have access to goods (bananas) that they may not be able to grow in their own countries.]**

   In developing countries? **[Possible answer: People in developing countries can export goods (bananas) to industrial countries in order to import goods and services that might not be available in their countries.]**

9. Which sector of development (i.e., social, economic or environmental) is best represented by the photograph? Explain your answer. Is it possible for this photograph to represent other sectors as well? In what way? **[Answers will vary.]**

10. To what extent does the activity in the photograph demonstrate sustainable development? Explain your answer. **[Answers will vary.]**

Exploring Photo 2 Computer Work, Thailand

1. Look at the photograph. Describe what you see. **[A man is working at a computer.]**

2. Would this be a common scene in your country? Why or why not? **[Answers will vary.]**

3. In which country was this photograph taken? **[Thailand]**

4. Find the country in the world and regional map gallery. What region is it in? **[Asia (South and East) and the Pacific]**

5. Find the country in the Data Table and determine if it is a low-, middle-, or high-income economy. **[It is a middle-income economy.]**

6. According to the Data Table, what is this country's projected population growth rate for 1995-2010? **[0.7%]** its 1995 GNP per capita? **[$2,740]** its 1989-1995 percentage of population with access to safe water? **[81%]**

7. What do you think life is like for the average person in this country? Support your answer. **[Answers will vary, but should take into account the possible effects of the population growth rate, the GNP per capita, and the percentage of the population with access to safe water on the quality of life.]**

8. What, if any, aspects of the activity shown in the photograph might help improve living standards in industrial countries? In developing countries? **[Possible answer: For both industrial and developing countries, computer technologies can help increase worker productivity and increase GNP per capita, which in turn can improve living standards.]**

9. Which sector of development (i.e., social, economic or environmental) is best represented by the photograph? Explain your answer. Is it possible for this photograph to represent sectors as well? In what way? **[Answers will vary.]**

10. To what extent does the activity in the photograph demonstrate sustainable development? Explain your answer. **[Answers will vary.]**

Case Study 1
Microenterprise Making It Possible India

Mala and her family had always been bound to the growing seasons of the land. In her village, Manpur, in the state of Andhra Pradesh in southern India, she and her husband had work when there was planting to be done, or crops to be harvested. Otherwise, there was little she could do to earn the money necessary to improve their mud-walled house or buy the food they needed or get books for their four children. Like most other women in the village, Mala was illiterate. Her house had no running water or electricity, which meant she and her children spent many hours every day finding fuel, tending the fire, or hauling water from the village well.

Mala's chances for a better life improved recently after workers from SHARE, an unusual lending organization, came to her village and introduced a program that helped the women there set up their own businesses. The concept behind the program was simple: Mala and four other women in her village would agree to take joint responsibility for repayment of their loan from SHARE. The women were not required to pledge any of their meager possessions to receive the loan; rather, each put in a small sum of money they had saved, and trusted the others to pay back their loans with interest so none would be liable for the other's amount.

Borrowing the equivalent of about U.S. $100, Mala used the loan to buy a cow and a goat, and to pay for their feed. She was excited and happy with what the loan could do for her family. Sales of milk, cheese and butter from the animals meant that for the first time, she had a regular income during the months when there was little farm work available. In the past, with daily salaries equal to less than half a U.S. dollar, Mala and her husband rarely were able to save any money. Because they had no possessions to give to a bank if they were unable to make payments, they were not eligible for a regular commercial bank loan. The only other sources of cash were moneylenders who charged very high interest rates, or landowners who demanded free work in their fields as payment. But now, thanks to the small loan and her new business, Mala had money to repair the thatched roof of her family's home to protect it against the monsoon rain, and to buy shoes for her children.

Mala is benefitting from a relatively new development strategy called microfinance that is aimed at raising the gross national product (GNP) per capita, or individual income, of people in low- and middle-income countries. India saw its GNP per capita increase annually by about three percent between 1980 and 1992. Although that pace of improvement compares quite favorably with the situation in many other low-income economies around the world, where GNP per capita actually dropped in the same time period, India still lags far behind other Asian economies such as Singapore and South Korea. Expressed in U.S. dollars, India's GNP per capita was about $300 in 1992, compared to $6,790 in Korea. In industrial countries in Europe and North America, GNP per capita normally exceeds $20,000 a year.

Microfinance is important for large numbers of poor women who have very limited opportunities to improve their lives or to contribute to the betterment of their families. More generally, it assists people who wish to become entrepreneurs or expand their small businesses but, with few

possessions to guarantee a loan, lack access to banks or other traditional lending institutions. Governments have tried to subsidize loans to the poor, but problems including inflation and over-regulation have prevented these programs from becoming self-sufficient. Subsidized programs have also undermined other financial institutions that did not receive government aid, and frequently the people who have been most successful at getting the low-interest government loans have been the richer members of the economy, rather than the poor people they were intended to help.

During the past two decades, microfinance efforts have become an increasingly popular alternative to total reliance on state credit subsidies. Today, the approach is being used, with varying degrees of success, across Asia, Africa, and Latin America. Programs are working in very poor nations, such as Bangladesh and Niger, and in developing countries with higher levels of economic well-being, such as Colombia and Costa Rica.

The size of a typical microfinance loan is small, often under U.S. $400. Operating on this scale, the Grameen Bank of Bangladesh, for example, covers almost half the villages in the country, reaching almost 2 million poor clients. Bolivia's Banco Sol has served nearly 50,000 borrowers, almost 10 percent of the potential market. In other countries, programs are growing at rates ranging from 25 percent to 100 percent annually.

Besides earning money for home improvements, food and clothing, entrepreneurs such as Mala participate in their national economy by providing employment for themselves and others and boosting the supply of goods and services available to the population. Although microfinance works on a small, individual level, collectively it plants the seeds of higher economic growth, or GNP, for poor, developing nations. Involvement in these new lending programs also makes more people aware of some of the basic rules of a free market system, which has become the most common form of economic organization in the world.

Although many microfinance groups began their efforts with donations from grants or loans from wealthy nations, the World Bank, or other multinational assistance organizations, a number of the groups have reached the point where they can support their staff and pay other operating expenses with income from interest and client fees. These groups are able to become self-sufficient because their repayment rates are generally very high-usually above 95 percent. Some groups have even made profits that equal those of more conventional private financial firms. The microfinance programs have far to go, however, before they resemble banks or other full-fledged financial institutions, which use local savings to back more comprehensive and costly economic development in poor communities.

The outlook for microfinance, and its contribution to greater GNP is encouraging in Andhra Pradesh. SHARE has grown to serve about 3,500 people since it was set up in 1993, and now covers about two-thirds of its operational expenses from income. The institution aims to expand its membership to 11,000 over the next few years, and expects to be fully financially independent by 2001.

In Manpur, Mala and the other women in SHARE are part of its success story. They are proud

that they have never missed a weekly loan payment. Mala's husband, who was at first skeptical of her business efforts, has decided to help her expand by caring for two new cows and goats. With more income, they hope to have a concrete floor poured in their house, and to pay for a greater variety of foods for their family.

Exploring GNP per Capita Case Study 1

1. Before receiving her loan, how did Mala and her husband support their family? **[They worked on their land. They were tied to the growing seasons.]**

2. What did Mala use her SHARE loan for? **[She bought a cow and a goat.]**

3. Aside from giving some additional income, how did Mala's investment add to the financial stability of the family? **[It helped to ensure that the family had income throughout the year, not just at planting and harvest times.]**

4. Why didn't Mala use the money she borrowed from SHARE to pay for the roof and her children's shoes? **[By investing in the cow and goat, she could ensure that she would have profits for years to come which she could use to pay back the loan as well as buy things her family needed. If she had used the money to buy shoes and a roof at the beginning, she would have had no means of paying the money back, nor would she have been able to buy other things for her family later on.]**

5. Who are the clients served by the SHARE loan program? **[The clients of the SHARE program are poor women in developing countries who would otherwise have no access to credit to develop their businesses.]**

6. How does microfinance work? **[People who cannot get regular loans because they are poor credit risks are able to come together and borrow money as a group. They take joint responsibility for the repayment of their loan. The recipients of the loans invest the money in their businesses--for example by buying new equipment, farm animals, or seed, or by hiring additional employees--in order to make their businesses grow at a faster rate and make greater profits. Studies show that the money made from the investment usually goes toward food, shelter, clothing, or education for the family, thus increasing the chance that the generations that follow will be healthier and more financially secure than their parents.]**

7. How can microfinance, which works on a small, individual level, affect the larger economy? **[By lending money to poor people to start their own businesses, microfinancing helps to improve individual standards of living. Beyond that, recipients of microfinance loans contribute to the national economy by producing more goods and services and often hiring others to work for them. And with the additional money they earn, they can buy more goods and services, again adding to the national economy. In addition, microfinancing can help more people move from the informal economy to the formal.]**

8. This case study shows how microfinancing works in developing economies. Would industrial economies be able to benefit from a similar system? Explain your answer. **[Answers will vary.]**

9. How do people get small business loans where you live? How well does the system work? Explain your answer. **[Answers will vary.]**

GNP per Capita Research & Explore

1. Listed below are some activities that would help increase a country's GNP per capita growth. Assume that you are an officer in the Ministry of Planning. Because funds are limited, not all plans can be implemented at once.

   a. Rank the following activities in the order in which you would undertake them. Explain why you chose this ranking.

      - Resurface and broaden a highway for trucks carrying logs from the country's largest forest to its only seaport.
      - Provide subsidized loans to banks so they can make small loans with low interest rates to 500 small business owners.
      - Equip twenty minibuses to provide health care and family planning services in rural areas; train and pay salaries of bus workers.
      - Train 100 secondary school graduates to teach in understaffed primary schools and to run adult literacy programs.
      - Train and equip fifty field workers and pay their salaries for a year; each trainee will teach 100 farmers to use a new planting technique that will help increase production.

   b. Are there any activities you would not undertake? Explain.

   c. Think of three additional programs that could help increase GNP per capita. Describe each program and explain how you would fit them into your ranking.

2. How does your local government spend its money? Use your local newspaper, government, offices, council members, and other sources to find out what community infrastructure projects (for example, roads, railways, buildings, telecommunications systems, energy supply systems, or water and sanitation systems) have been approved by your local government within the last year. Choose one project that is interesting to you, and answer the following questions:

   a. What is the nature of this project?

   b. Who will benefit from this project, everyone or a segment of the population? Explain your answer.

   c. How much will the project cost?

   d. Who will pay for the project? Are all of the funds public, or are there also private investments? If some of the funds are private, who are these investors and how do they intend to benefit from the project?

e. Who will pay for maintenance?

f. Were the environmental impacts of the project considered? Explain.

g. Were there any people opposed to the project? If so, what were their arguments against the project? Were these arguments valid? Explain.

h. In your opinion, will this project contribute to sustainable development? Explain.

3. How has technology affected the workplace? Interview someone in your family or community who has performed the same work or has worked at the same company for more than twenty years to find out how technology has or has not altered their work productivity and environment and job security.

a. Find out what your subject does and how long he or she has been in that position. Then ask the following questions:

- Has the amount of technology you use in your job changed since you started working? If no, are there any parts of your job that you think could benefit from using more technology? In what way?
- If yes, how has technology affected the way in which you do your job?
- What kind of training did you get with the new technology? Was it enough? Explain.
- How has technology affected the number of people or the amount of time required to do your job?
- How has technology affected the amount of pollution generated in the production process?
- How has technology affected relationships among employees?
- How has technology affected the quality of the product?
- How has technology affected profits?

b. List at least five additional questions you will ask when you interview your subject.

c. Based on your interview, prepare an oral presentation or write a report discussing whether technological changes have contributed to sustainable development in your subject's field of work.

In the countries with the lowest GNP per capita, are the other indicators high or low? In the middle-income countries, are the other indicators higher or lower than in the low-income countries?

In the high-income countries, are the other indicators higher or lower than in the developing countries?

h. Based on your chart, is GNP per capita a good general indicator of the standard of living of a country? Why or why not?

3. Make a copy of the blank Comparative Data Table and label the first column Countries, the second column GNP per capita,1995 and the third column GNP per capita, PPP, 1995. Compare GNP per capita and GNP per capita adjusted for PPP in six countries from six different regions of the world by following these steps:

a. In the column at the left of the table, write the following countries and their regions. Brazil (South America); Ghana (Sub-Saharan Africa); Philippines (Asia, South and East, and the Pacific); Egypt (Middle East and North Africa); Canada (North and Central America and the Caribbean); Russian Federation (Europe and Central Asia).

b. Use the Data Table to find the GNP per capita for each country and fill in column 2 in your table.

c. Use the Data Table to find the GNP per capita adjusted for PPP for each country and fill in column 3 in your table. Are there any substantial changes in GNP per capita when it is adjusted for purchasing power parity?

d. On a separate piece of paper, classify each country as low, middle, or high income according to its GNP per capita adjusted for PPP. Did any of the countries change from one classification to another? What does this tell you about GNP per capita data?

4. Take the Comparative Data Table you prepared for question 2 above, and add a sixth column labeled GNP per capita, PPP, 1995.

a. Use the Data Table to find the GNP per capita adjusted for PPP for each of your countries and fill in column 6 in your table. Are there any substantial changes in GNP per capita of each country when that GNP per capita is adjusted for purchasing power parity?

b. On a separate piece of paper, classify each country as low, middle, or high income according to its GNP per capita adjusted for PPP. Did any of the countries change from one classification to another?

c. Are differences between GNP per capita and GNP per capita adjusted for PPP reflected in any of the other indicators for the countries you chose? Explain. (For example, if one of your countries shifts from a middle-income to a high-income country when its GNP per capita is adjusted for PPP, does that country have a higher percentage of its population with access to safe water and sanitation than your other middle-income countries?)

World Bank

GNP Per Capita

Glossary

Access to safe water.

Measured by the number of people who have a reasonable means of getting and adequate amount of clean water, expressed as a percentage of the total population. It reflects the health of a country's people and the country's ability to collect, clean, and distribute water. In urban areas "reasonable" access means there is a public fountain or water spigot located within 200 meters of the household. In rural areas, it implies that members of the household do not have to spend excessive time each day fetching water. Water is safe or unsafe depending on the amount of bacteria in it. An adequate amount of water is enough to satisfy metabolic, hygienic, and domestic requirements, usually about 20 liters (about 4 gallons) per person per day.

Access to sanitation.

Refers to the share of the population with at least adequate excreta disposal facilities that can effectively prevent human, animal, and insect contact with excreta. Suitable facilities range from simple but protected pit latrines to flush toilets with sewerage. To be effective, all facilities must be correctly constructed and maintained.

Adult illiteracy rate.

The proportion of the population over age fifteen who cannot, with understanding, read and write a simple statement about their everyday life and do simple mathematical calculations.

Bilharzia.

A life-threatening parasitic disease caused by a worm that lives in a host snail. Humans can become infected when they come in contact with water in ponds and rivers where the snail lives. Occurs most often in tropical regions. Also called schistosomiasis.

Billion.

One billion equals 1,000,000,000 or one thousand million.

Biodiversity.
The variability among living organisms from all sources, including land based and aquatic ecosystems, and the ecosystems of which they are part. These include diversity within species, between species, and of ecosystems. Diversity is the key to ensuring the continuance of life on Earth. It is also a fundamental requirement for adaptation and survival and continued evolution of species.

Birth rate.
The number of births in a year per 1,000 population.

Capital.
The money or wealth needed to produce goods and services. See also human capital and physical capital.

Carrying capacity. The population that an area will support without undergoing environmental deterioration.

Cholera.
Any of several diseases of man and domestic animals usually marked by severe gastrointestinal symptoms.

Commodity.
See primary goods or products.

Death rate.
The number of deaths in a year per 1,000 population.

Deforestation.
The process of clearing of forests. Since trees root systems are essential for keeping top soil in place, deforestation can bring about soil erosion. In addition, loss of trees is said to contribute to global warming because trees reduce greenhouse gases and provide shade.

Demography.
The statistical study of human populations, especially with reference to size and density, distribution and vital statistics.

Desertification.
The process of becoming desert (as from land management or climate change).

Developing country.
Low- and middle-income countries in which most people have a lower standard of living with access to fewer goods and services than do most people in high-income countries. There are currently about 125 developing countries with populations over 1 million; in 1995, their total population was more than 4.7 billion.

Diarrheal illness.
A disease that affects the intestines. The victims of this disease, frequently children in low- and middle-income countries, may die from the resulting dehydration.

Economic growth/development.
The process by which a country increases its ability to produce goods and services.

Ecosystem.
A community of plants and animals existing in an environment that supplies them with water, air, and other elements they need for life.

Ecosystem integrity.
The extent to which the interrelationships among and within ecosystems remain intact so that the number and variety of living organisms can be maintained.

Elephantiasis.
A disease, often found in tropical countries, in which parts of the human body become enlarged. It is caused by small roundworms that are injected into the body by mosquitoes.

Environment.
The complex set of physical, geographic, biological, social, cultural and political conditions that surround an individual or organism and that ultimately determines its form and nature of its survival.

Export.
To sell goods or services to a buyer outside your country.

Factors of production.
Input used to produce goods and services, for example, capital or labor.

Family planning.
A health service that helps couples decide whether to have children, and if so, when and how many.

Fertility rate (total).
The average number of children a woman will have during her lifetime. The total fertility rate in developing countries is between three and four; in industrial countries it is less than two.

Goods and services.
Things that are produced by a country's economy. Examples of goods include food, clothing, machines, and new roads. Examples of services include those of doctors, teachers, merchants, tourist agents, construction workers, and government officials.

GNP (gross national product).
The value (in U.S. dollars) of a country's final output of goods and services in a year. The

value of GNP can be calculated by adding up the amount of money spent on a country's final output of goods and services, or by totaling the income of all citizens of a country including the income from factors of production used abroad.

GNP per capita.
The dollar value of a country's final output of goods and services in a year (its GNP), divided by its population. It reflects the average income of a country's citizens. Knowing a country's GNP per capita is a good first step toward understanding the country's economic strengths and needs.

GNP per capita growth rate.
The change in GNP per capita over a period, expressed as a percentage of GNP per capita at the start of the period.

Growth rate.
The change (increase, decrease, or no change) in an indicator over a period of time, expressed as a percentage of the indicator at the start of the period. Growth rates contain several sets of information. The first is whether there is any change at all; the second is what direction the change is going in (increasing or decreasing); and the third is how rapidly that change is occurring. For example, if a country's GNP growth rate for a particular year is more or less than zero, there has been a change in the amount of goods and services produced in that year. If the GNP growth rate is positive, the country is producing more goods and services at the end of the year than at the beginning. If the GNP growth rate is negative, the country is producing fewer goods and services than at the beginning of the year. Note that a change in GNP growth rate from 2% one year to 1% the next year does not mean that the total production of goods and services has decreased. As long as the growth rate is positive, the GNP is growing. The only time the production of goods and services has actually decreased is when the GNP growth rate is negative.

High-income country.
A country having an annual gross national product (GNP) per capita equivalent to $9,386 or greater in 1995. Most high-income countries have an industrial economy. There are currently about 26 high-income countries in the world with populations of one million people or more. Their combined population is about 0.9 billion, less than one-sixth of the world's population.

Hookworm.
An intestinal parasite found in tropical and subtropical regions. It passes through the skin, especially bare feet, and is spread by unsanitary conditions.

Human capital.
People and their ability to be economically productive. Education, training, and health care can help increase human capital. See also capital and physical capital.

Hygiene.
Practices, such as frequent hand washing, that help ensure cleanliness and good health.

Import.
To buy goods and services from another country.

Indicator.
A numerical measure of quality of life in a country. Indicators are used to illustrate progress of a country in meeting a range of economic, social, and environmental goals. Since indicators represent data that have been collected by a variety of agencies using different collection methods, there may be inconsistencies among them.

Industrial country.
A country in which historically the greatest part of output has been accounted for by industry. However, the term is widely used to signify high-income economies.

Industrial waste.
Material—for example, certain chemicals or even very hot water—left over from a manufacturing process. It can be harmful sometimes and may pollute the water and the environment if not treated and/or disposed of properly.

Infant mortality rate.
The number of infants, out of every 1,000 babies born in a given year, who die before reaching age 1. The lower the rate, the fewer the infant deaths, and generally the greater the level of health care available in a country.

Informal economy.
The exchange of goods and services not accurately recorded in government figures and accounting. The informal economy, which is generally untaxed, commonly includes goods and services including day care, tutoring, or black market exchanges.

Investment.
Money spent now in order to make the economy grow and have more money—or goods and services—later.

Life expectancy at birth.
The average number of years newborn babies can be expected to live based on current health conditions. This indicator reflects environmental conditions in a country, the health of its people, the quality of care they receive when they are sick, and their living conditions.

Literacy.
The ability to read and write a simple statement about one's everyday life and do simple mathematical calculations.

Low-income country.
A country having an annual gross national product (GNP) per capita equivalent to $765 or less in 1995. The standard of living is lower in these countries; there are few goods and services; and many people cannot meet their basic needs. There are currently about 58

low-income countries with populations of 1 million or more. Their combined population is almost 3.2 billion.

Manufactured products.
Goods--for example, shoes, trucks, paper, radios, electric motors, and canned fruit-that are produced from raw materials by hand or by machine.

Middle-income country.
A country having an annual gross national product (GNP) per capita equivalent to more than $765 but less than $9,386 in 1995. The standard of living is higher than in low-income countries, and people have access to more goods and services, but many people still cannot meet their basic needs. There are currently about 67 middle-income countries with populations of one million or more. Their combined population is more than 1.5 billion.

Natural resource accounting.
The process of adjusting national accounts such as GNP to reflect the environmental costs of economic production. Although methods are still being developed, natural resource accounting strives to determine the costs of depleting natural resources and damaging the environment.

Natural resources.
Materials that occur in nature and are essential or useful to humans, such as water, air, land, forests, fish and wildlife, topsoil, and minerals.

Physical capital.
Things, such as machinery, tools, equipment, furniture, parts, and buildings, that are needed to produce goods and services. See also capital and human capital.

Population growth rate (average annual).
The increase in a country's population during one year, divided by the population at the start of that year. It reflects the number of births and deaths during the period and the number of people moving to and from a country. The average annual population growth rates for a period of years provide a better picture than do rates for a single year. In 1995 total world population was more that 5.6 billion, and the average world population growth rate was between 1980 and 1995 1.6.

Population momentum.
The tendency for population growth to continue beyond the time that replacement-level fertility has been achieved because of a relatively high concentration of people in the childbearing years. For example, the absolute numbers of people in developing countries will continue to increase over the next several decades even as the rates of population growth will decline. This phenomenon is due to past high fertility rates which results in a large number of young people. As these youth grow older and move through reproductive ages, the greater number of births will exceed the number of deaths in the older populations.

Population projections.
Demographers make predictions about future population based on trends in fertility, mortality, and migration.

Prevalence of malnutrition under age 5.
The percentage of children under five years of age whose health and growth are jeopardized by lack of proper food.

Primary goods or products.
Goods--for example, iron ore, diamonds, wheat, copper, oil, or coffee-that are used or sold as they are found in nature. They are also called commodities.

Primary health care.
Health services, including family planning, clean water supply, sanitation, immunization, and nutrition education, that are designed to be affordable for both the poor people who receive the services and the governments that provide them; the emphasis is on preventing disease as well as curing it.

Purchasing power parity (PPP).
A method of measuring the relative purchasing power of different countries' currencies over the same types of goods and services. Because goods and services may cost more in one country than in another, PPP allows us to make more accurate comparisons of standards of living across countries. PPP estimates use price comparisons of comparable items but since not all items can be matched exactly across countries and time, the estimates are not always "robust."

Renewable.
Able to be replaced or replenished, either by the earth's natural processes or by human action. Air, water, and forests are often considered to be example of renewable resources. However, due to local geographic conditions and costs involved, strong arguments can be made that water may not be a completely renewable resource in some parts of the world, especially in developing countries or in areas with limited groundwater supplies. Minerals and fossil fuels are examples of non-renewable resources.

Replacement level.
The fertility level at which couples have the number of children required to replace themselves, this is about two children. When the replacement level is reached, population growth will stabilize in time. (See definitions for Population Momentum and Transition.)

Resources.
The machines, workers, money, land, raw materials, and other things that a country can use to produce goods and services and to make its economy grow. Resources may be renewable or nonrenewable. Countries must use their resources wisely to ensure long term prosperity.

Sanitation.
Maintaining clean, hygienic conditions that help prevent disease through services such as garbage collection and wastewater disposal.

Sanitation facilities.
Basic sewerage and drainage systems that collect waste water and then clean and redistribute it.

Sewage.
Refuse liquids or waste matter carried off by sewers.

Sewerage.
A system of sewers or drainage pipes.

Silting.
The process whereby waterways become choked by mud and soil that has washed off the land through erosion.

Social services.
Services generally provided by the government that help improve people's standard of living; examples are public hospitals and clinics, good roads, clean water supply, garbage collection, electricity, and telecommunications.

Sources of water.
House connection/yard tap: Piped water from the public water distribution system that reaches the home or yard. When people have house connections, they usually have indoor plumbing as well; if they have yard taps, they have to go outside to get water. Shallow well: A well dug on public or private property for public consumption. Public wells usually provide water for little or no cost; water from private wells is usually more expensive. Shallow wells are not always reliable sources of water because they can become contaminated by run off in the rainy season or dry up in the dry season. Yard well: A shallow well in a yard usually intended for private use. Standpost: An outside tap to which a number of households can go to get water. Public standposts are connected to the public water distribution system and controlled by the water company. Private standposts are not connected to the public water distribution system nor controlled by the water company. Private borehole and electric pump: A very deep well drilled into the ground using specialized machinery. Boreholes are used when the water is far below the surface or when the ground is too hard to dig a well by conventional means. Because they are so deep, they require an electric pump to bring water to the surface.

Sustainable development.
Development that meets the needs of the people today without compromising the ability of future generations to meet their own needs.

Total fertility rate.
See fertility rate (total).>

Transition.
Refers to the demographic change that is occurring in developing countries as they move to lower rates of fertility and mortality. Many factors contribute to transition including: improved health services, greater access to education and improved social and economic conditions. Several developing countries in Asia are now in the later stages of transition, while many countries in Sub-Saharan Africa are in the early stages of transition. Demographic transition is complete when fertility has reached replacement level, which is the case in most industrial countries.

Urbanization.
The process by which a country's population changes from primarily rural to urban. It is caused by the migration of people from the countryside to the city in search of better jobs and living conditions.

Wastewater.
Water that has been used and is no longer clean.

Wastewater treatment.
The process of removing pollutants from water that has been used. There are different stages of treatment. Primary sewage treatment involves screening the water to remove the largest solids from wastewater and then letting the water sit in settling tanks so that the smaller solids and particles sink to the bottom. Secondary treatment involves another stage in which microbes added to the wastewater to eat the biological pollutants, or the wastewater is put through another filter. Then the treated water is disinfected and released back into nature. The more steps included in the treatment, the more expensive the process.

Watershed.
The specific land area that drains water into a river system or other body of water.